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L1 51 435/345/CCLS

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L2 45 435/350/CCLS

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L3 20 435/351/CCLS

=> s 435/352/ccls

L4 116 435/352/CCLS

=> s 435/366/ccls

L5 394 435/366/CCLS

=> s 435/455/ccls

L6 264 435/455/CCLS

=> s 424/93.2/ccls

L7 331 424/93.2/CCLS

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L8 1111 (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7)

=> s l8 and (neuron restricted or neuronal restricted)

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3946 NEURONAL
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74093 PRECURSOR#
53 (NEURON?)(W)(PRECURSOR#)
L10 9 L8 AND (NEURON?)(W)(PRECURSOR#)

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1. 5,958,767, Sep. 28, 1999, Engraftable human neural stem cells; Evan Y. Snyder, et al., 435/368, **455** [IMAGE AVAILABLE]

US PAT NO: 5,958,767 [IMAGE AVAILABLE] L10: 1 of 9

ABSTRACT:
Stable clones of neural stem cells (NSCs) have been isolated from the human fetal telencephalon. In vitro, these self-renewing clones (affirmed by retroviral insertion site) can spontaneously give rise to all 3 fundamental neural cell types (neurons, oligodendrocytes, astrocytes). Following transplantation into germinal zones of the developing newborn mouse brain, they, like their rodent counterparts, can participate in aspects of normal development, including migration along well-established migratory pathways to disseminated CNS regions, differentiation into multiple developmentally- and regionally-appropriate cell types in response to microenvironmental cues, and non-disruptive, non-tumorigenic interspersion with host progenitors and their progeny. Readily genetically engineered prior to transplantation, human NSCs are capable of expressing foreign transgenes in vivo in these disseminated locations. Further supporting their potential for gene therapeutic applications, the secretory products from these NSCs can cross-correct a prototypical genetic metabolic defect in abnormal neurons and glia in vitro as effectively as do murine NSCs. Finally, human cells appear capable of replacing specific deficient neuronal populations in a mouse model of neurodegeneration and impaired development, much as murine NSCs could. Human NSCs may be propagated by a variety of means--both epigenetic (e.g., chronic mitogen exposure) and genetic (transduction of the propagating gene vmyc)--that are comparably safe (vmyc is constitutively downregulated by normal developmental mechanisms and environmental cues) and effective in yielding engraftable, migratory clones, suggesting that investigators may choose the propagation technique that best serves the demands of a particular research or clinical problem. All clones can be cryopreserved and transplanted into multiple hosts in multiple settings.

2. 5,851,832, Dec. 22, 1998, In vitro growth and proliferation of

multipotent neural stem cells and their progeny; Samuel Weiss, et al., 435/368, 325, **366**, 377, 383, 384 [IMAGE AVAILABLE]

US PAT NO: 5,851,832 [IMAGE AVAILABLE] L10: 2 of 9

ABSTRACT:
A method for the in vitro proliferation and differentiation of neural stem cells and stem cell progeny comprising the steps of (a) isolating the cells from a mammal, (b) exposing the cells to a culture medium containing a growth factor, (c) inducing the cells to proliferate, and (d) inducing the cells to differentiate is provided.

3. 5,833,979, Nov. 10, 1998, Methods and compositions of growth control for cells encapsulated within bioartificial organs; Malcolm Schinstine, et al., 424/93.21, 553, 556; 435/174, **352** [IMAGE AVAILABLE]

US PAT NO: 5,833,979 [IMAGE AVAILABLE] L10: 3 of 9

ABSTRACT:
This invention relates to methods and compositions of controlling cell distribution within a bioartificial organ by exposing the cells to a treatment that inhibits cell proliferation, promotes cell differentiation, or affects cell attachment to a growth surface within the bioartificial organ. Such treatments include (1) genetically manipulating cells, (2) exposing the cells to a proliferation-inhibiting compound or a differentiation-inducing compound or removing the cells from exposure to a proliferation-stimulating compound or a differentiation-inhibiting compound; exposing the cells to irradiation, and (3) modifying a growth surface of the BAO with ECM molecules, molecules affecting cell proliferation or adhesion, or an inert scaffold, or a combination thereof. These treatments may be used in combination.

4. 5,780,300, Jul. 14, 1998, Manipulation of non-terminally differentiated cells using the notch pathway; Spyridon Artavanis-Tsakonas, et al., 435/377, 325, **366**, 372, 375 [IMAGE AVAILABLE]

US PAT NO: 5,780,300 [IMAGE AVAILABLE] L10: 4 of 9

ABSTRACT:
The present invention is directed to methods for the expansion of non-terminally differentiated cells ("precursor cells") using agonists of Notch function, by inhibiting the differentiation of the cells without inhibiting proliferation (mitotic activity) such that an expanded population of non-terminally differentiated cells is obtained. The cells are preferably stem or progenitor cells. These expanded cells can be used in cell replacement therapy to provide desired cell populations and help in the regeneration of diseased and/or injured tissues. The expanded cell populations can also be made recombinant and used for gene therapy, or can be used to supply functions associated with a particular precursor cell or its progeny cell.

5. 5,766,948, Jun. 16, 1998, Method for production of neuroblasts; Fred H. Gage, et al., 435/368, 325, **366**, 395, 402, 404 [IMAGE AVAILABLE]

US PAT NO: 5,766,948 [IMAGE AVAILABLE] L10: 5 of 9

ABSTRACT:
A method for producing a neuroblast and a cellular composition comprising an enriched population of neuroblast cells is provided. Also disclosed are methods for identifying compositions which affect neuroblasts and for treating a subject with a neuronal disorder, and a culture system for the production and maintenance of neuroblasts.

6. 5,753,506, May 19, 1998, Isolation propagation and directed differentiation of stem cells from embryonic and adult central nervous system of mammals; Karl K. Johe, 435/377, 325, **366**, 368 [IMAGE AVAILABLE]

US PAT NO: 5,753,506 [IMAGE AVAILABLE] L10: 6 of 9

ABSTRACT:
The present invention reveals an in vitro procedure by which a homogeneous population of multipotential precursor cells from mammalian embryonic neuroepithelium (CNS stem cells) can be expanded up to 10.sup.9 fold in culture while maintaining their multipotential capacity to differentiate into neurons, oligodendrocytes, and astrocytes. Chemically defined conditions are presented that enable a large number of neurons, up to 50% of the expanded cells, to be derived from the stem cells. In addition, four factors--PDGF, CNTF, LIF, and T3--have been identified which, individually, generate significantly higher proportions of neurons, astrocytes, or oligodendrocytes. These defined procedures permit a large-scale preparation of the mammalian CNS stem cells, neurons, astrocytes, and oligodendrocytes under chemically defined conditions with efficiency and control. These cells should be an important tool for many cell- and gene-based therapies for neurological disorders.

7. 5,750,376, May 12, 1998, In vitro growth and proliferation of genetically modified multipotent neural stem cells and their progeny; Samuel Weiss, et al., 435/69.52, 69.1, 325, 368, 377, 384, 392, 395, **455**, 456, 458, 461 [IMAGE AVAILABLE]

US PAT NO: 5,750,376 [IMAGE AVAILABLE] L10: 7 of 9

ABSTRACT:
A method for producing genetically modified neural cells comprises culturing cells derived from embryonic, juvenile, or adult mammalian neural tissue with one or more growth factors that induce multipotent neural stem cells to proliferate and produce multipotent neural stem cell progeny which include more daughter multipotent neural stem cells and undifferentiated progeny that are capable of differentiating into neurons, astrocytes, and oligodendrocytes. The proliferating neural cells can be transfected with exogenous DNA to produce genetically modified neural stem cell progeny. The genetic modification can be for the production of biologically useful proteins such as growth factor products, growth factor receptors, neurotransmitters, neurotransmitter receptors, neuropeptides and neurotransmitter synthesizing genes. The multipotent neural stem cell progeny can be continuously passaged and proliferation reinitiated in the presence of growth factors to result in an unlimited supply of neural cells for transplantation and other purposes. Culture conditions can be provided that induce the genetically modified multipotent neural stem cell progeny to differentiate into neurons, astrocytes, and oligodendrocytes in vitro.

8. 5,695,995, Dec. 9, 1997, Neurogenic differentiation (neurod) genes; Harold M. Weintraub, deceased, et al., **435/455**, 69.1, 69.4, 252.33, 320.1, 325, 357, 360; 536/23.1, 23.5, 23.51 [IMAGE AVAILABLE]

US PAT NO: 5,695,995 [IMAGE AVAILABLE] L10: 8 of 9

ABSTRACT:
Neurogenic differentiation genes and proteins are identified, isolated, and sequenced. Expression of neuroD has been demonstrated in neural, pancreatic, and gastrointestinal cells. Ectopic expression of neuroD in non-neuronal cells of Xenopus embryos induced formation of neurons.

9. 5,175,103, Dec. 29, 1992, Preparation of pure cultures of post-mitotic human neurons; Virginia Lee, et al., **435/455**, 377 [IMAGE AVAILABLE]

US PAT NO: 5,175,103 [IMAGE AVAILABLE] L10: 9 of 9

ABSTRACT:
NTera 2/cl.D1 (NT2) cells, a human teratocarcinoma cell line, were manipulated following retinoic acid (RA) treatment to yield>95% pure cultures of neuronal cells (NT2-N cells). This culture method is capable of yielding sufficient highly differentiated

post-mitotic NT2-N cells for
both biochemical and molecular biological
studies. NT2 cells can be
transfected efficiently and the transfected gene
products can be
expressed in both NT2 and NT2-N cells.

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L7       331 S 424/93.2/CCLS
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